



EUROPEAN CENTRAL BANK

EUROSYSTEM

# Navigating inflation and employment in an era of supply shocks and AI

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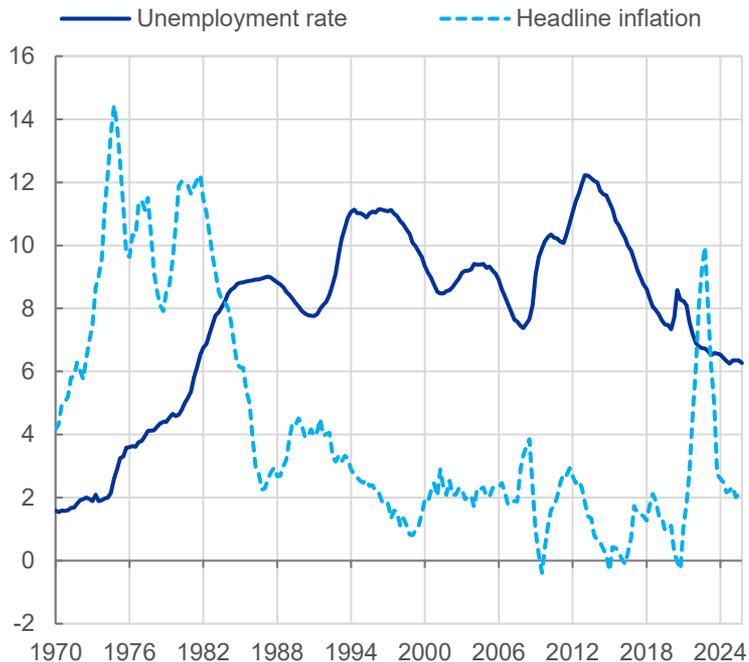
2026 US Monetary Policy Forum  
New York, 6 March 2026

# Growth-focused central bank policies in 1970s resulted in extended period of stagflation

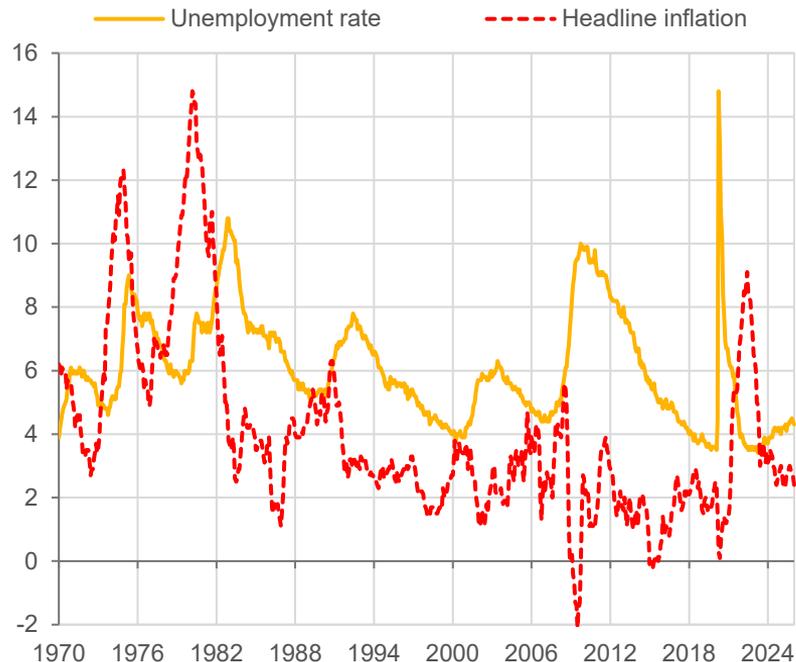
## Inflation and unemployment

(percentage of the labour force; annual percentage changes)

### Euro area



### United States



Sources: Eurostat, Area Wide Model Database and Labour Force Survey.  
Notes: The chart shows quarterly data. Historical data for the unemployment rate (before 2000) are taken from the Area Wide Model Database (AWMD). Headline inflation data prior to 1996 are estimated on the basis of non-harmonised national consumer price indices. Data prior to 1991 exclude East Germany; country weights calculated on the basis of PPP conversion rates before 1990. Latest observation: Q4 2025.

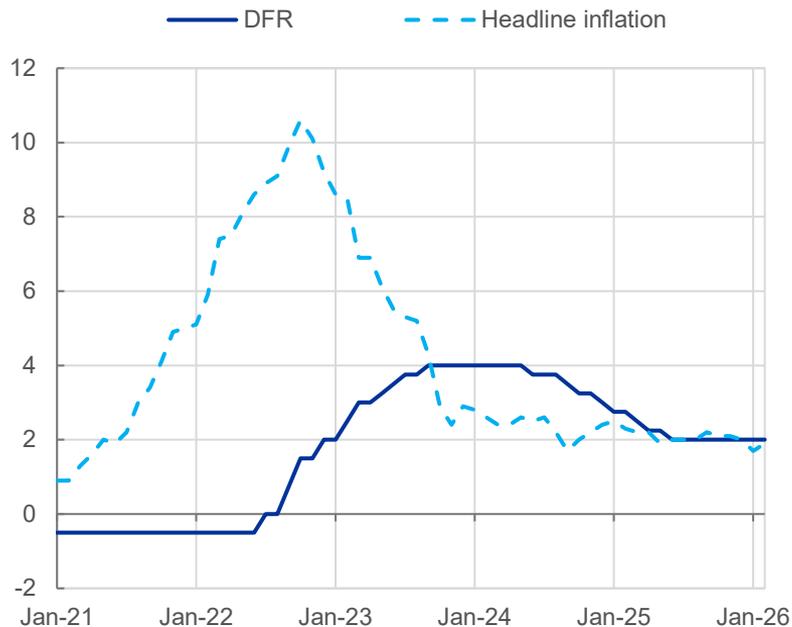
Sources: Bureau of Labor Statistics and Haver Analytics.  
Notes: The chart shows monthly data.  
Latest observation: January 2026.

# Despite differing mandates, central banks responded to inflation surge with equal vigour

## Key policy rates and headline inflation

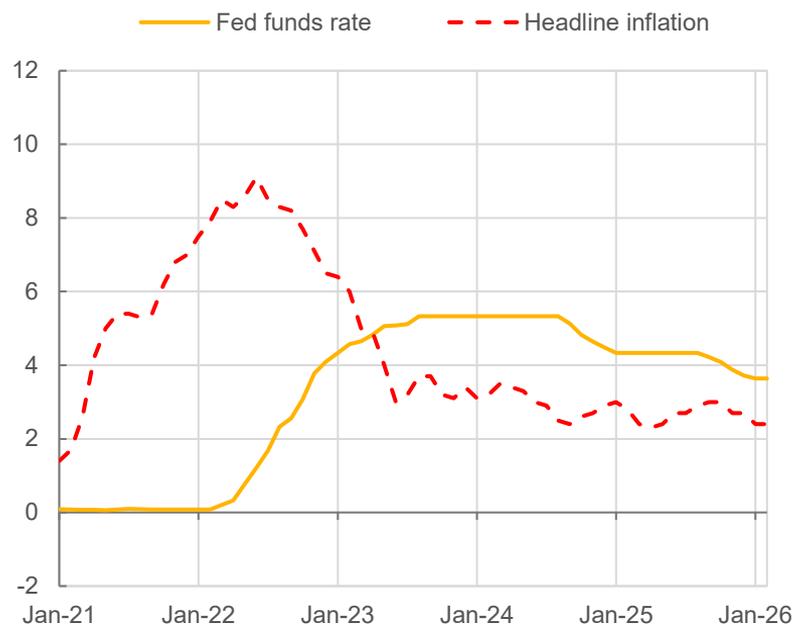
(percent; annual percentage changes)

### Euro area



Source: Bloomberg.  
Notes: The chart shows the ECB's deposit facility rate (DFR) and realised inflation for the euro area.  
Latest observation: 27 February 2026.

### United States

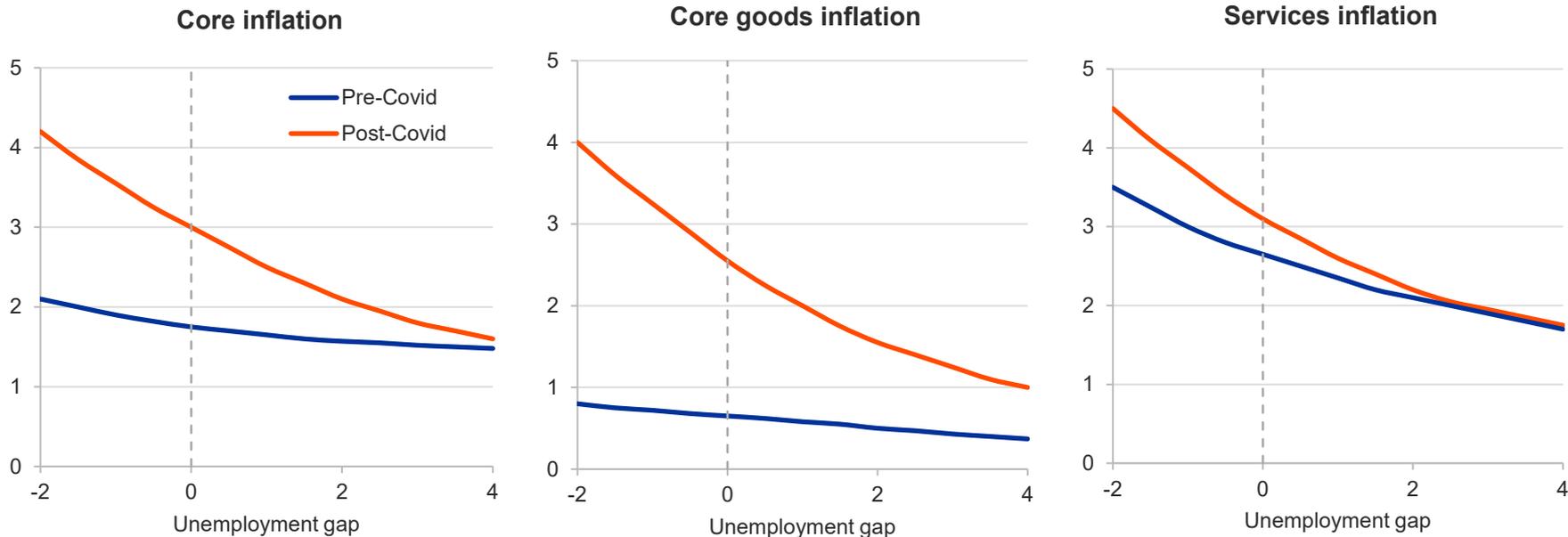


Source: Bloomberg.  
Notes: The chart shows the Fed funds rate and realised inflation for the United States.  
Latest observation: 27 February 2026.

# Flat Phillips curve before the pandemic did not imply immunity from inflation

## Phillips curve slopes in advanced economies

(panel of advanced economies; convex model)

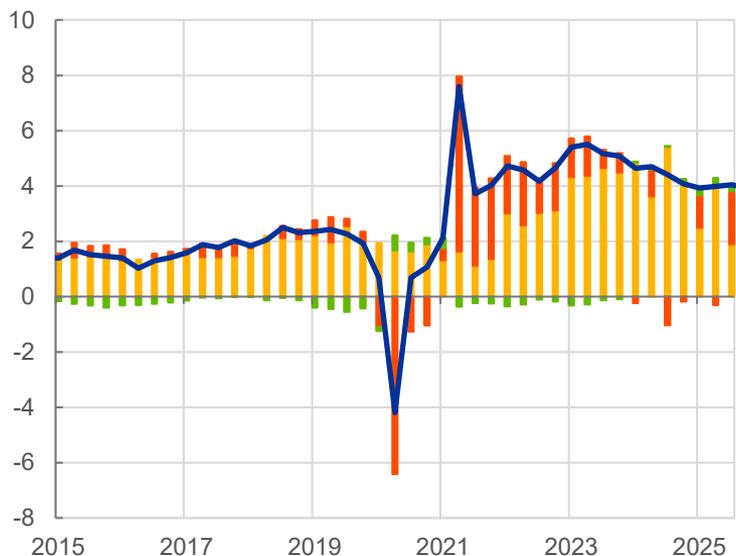


Source: Gudmundsson, T., Jackson, C., and Portillo, R. (2024), "The Shifting and Steepening of Phillips Curves During the Pandemic Recovery: International Evidence and Some Theory", IMF Working Paper, WP/24/7.

## Compensation per employee in the euro area

(annual percentage changes)

■ Social security contributions    ■ Wage drift  
■ Negotiated wages                — Compensation per employee

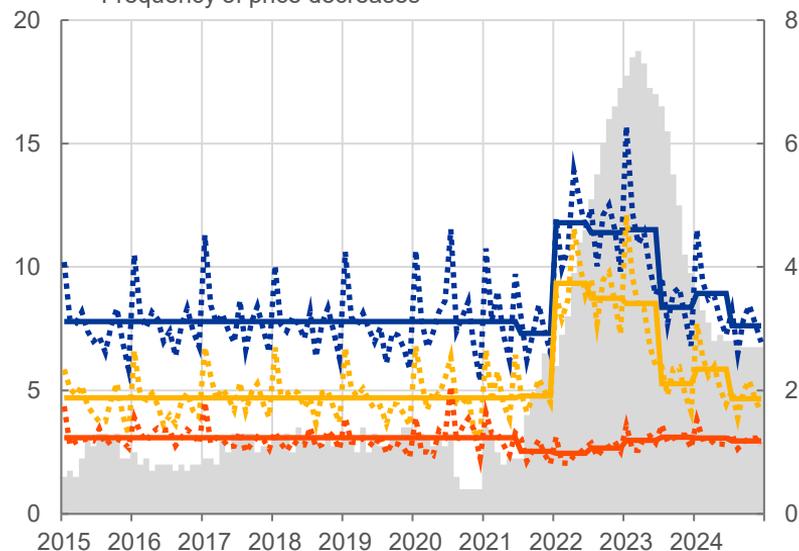


Sources: Eurostat and ECB staff calculations.  
Latest observations: Q3 2025.

## Frequency of consumer price changes

(left-hand scale: percentages; right-hand scale: annual percentage changes)

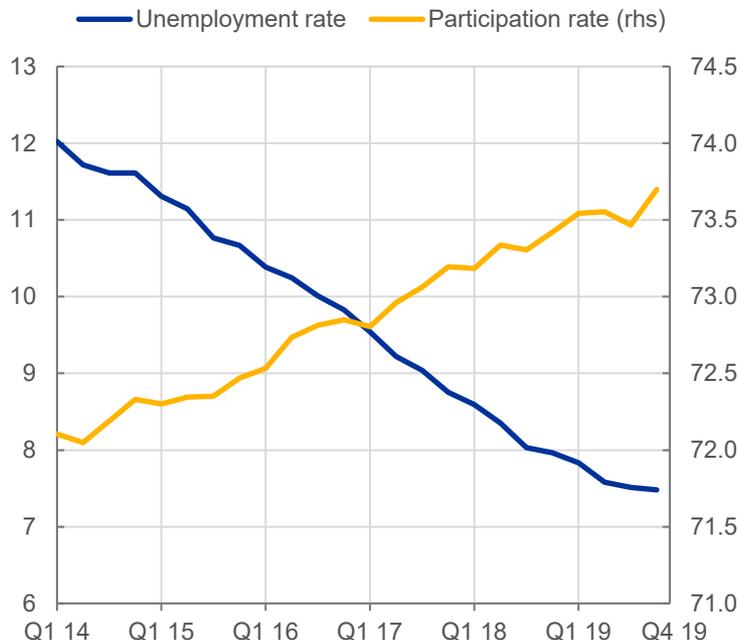
■ EA HICP excluding energy and unprocessed food (rhs)  
■ Frequency of price changes  
■ Frequency of price increases  
■ Frequency of price decreases



Sources: Gautier et al. (2026) and ECB staff calculations. Notes: Based on micro price data from nine euro area countries as documented by Gautier et al. (2026). The chart shows the weighted average frequencies of price changes (excluding sales) for all sectors and by aggregate product category. VAT changes in Germany (2020-21) and Spain (2020-23) have been excluded. The solid lines plot the average over the period 2015-21 and half-year averages over the period 2021-23. Latest observations: December 2024.

# Monetary policy faced diminishing returns once slack was absorbed

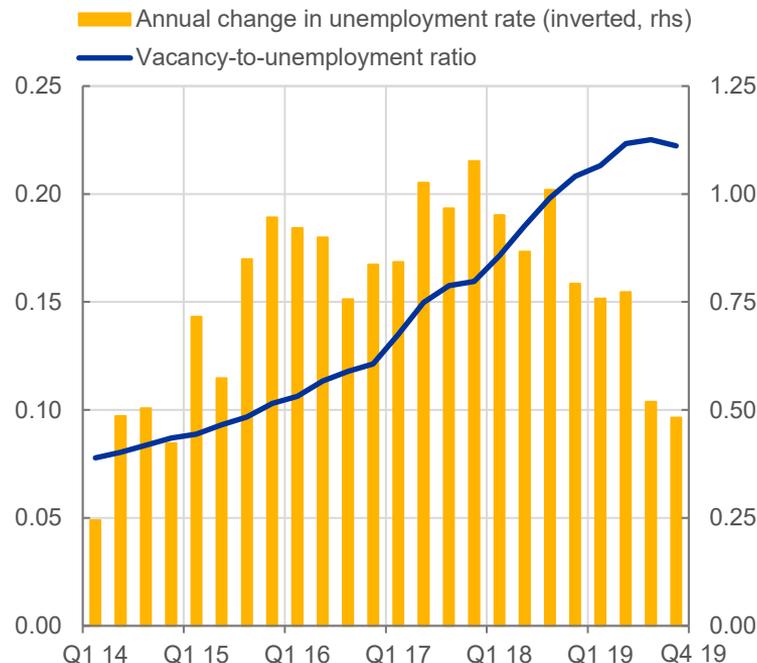
## Unemployment and participation rate (percentage)



Sources: Eurostat and ECB staff calculations.  
Latest observation: Q4 2019.

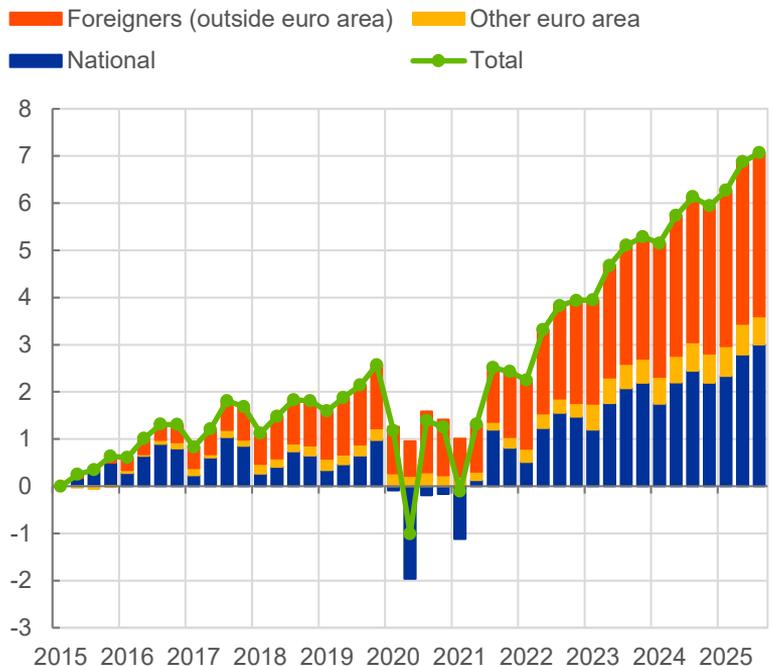
## Vacancy-to-unemployment ratio and changes in unemployment rate

(lhs: vacancy-to-unemployment ratio; rhs: percentage points)



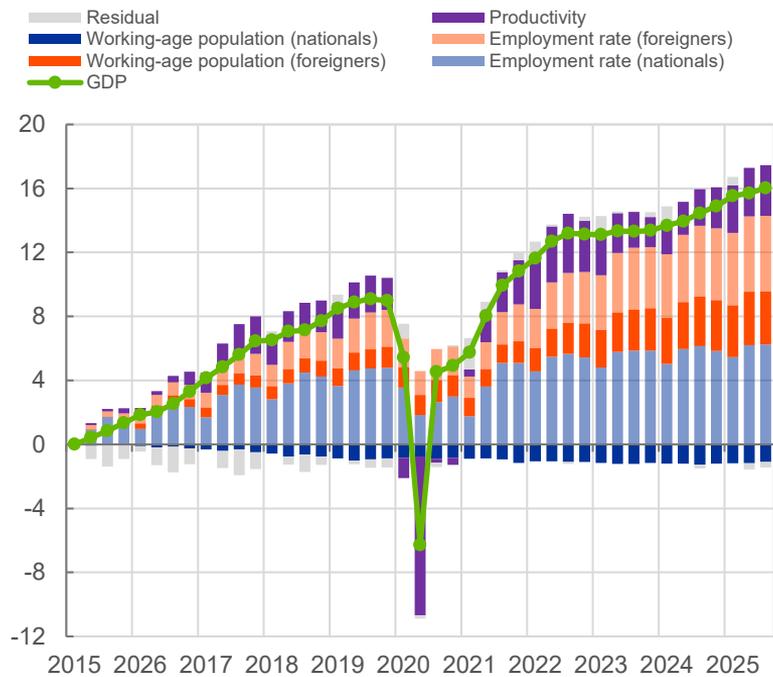
Sources: National accounts, Eurostat and ECB staff calculations.  
Notes: The vacancy-to-unemployment ratio measures labour market tightness. The change in the unemployment rate is shown as inverted in the chart for the sake of visualisation (i.e. a positive value indicates a decrease of the unemployment rate). The change in the unemployment rate is calculated in absolute terms:  $u(t) - u(t-4)$ , where time is in quarterly frequency.  
Latest observation: Q4 2019.

## Labour force growth by nationality (percentage change since first quarter of 2015 and percentage point contributions)



Sources: EU Labour Force Survey (LFS) and ECB staff calculations.  
Latest observation: Q3 2025.

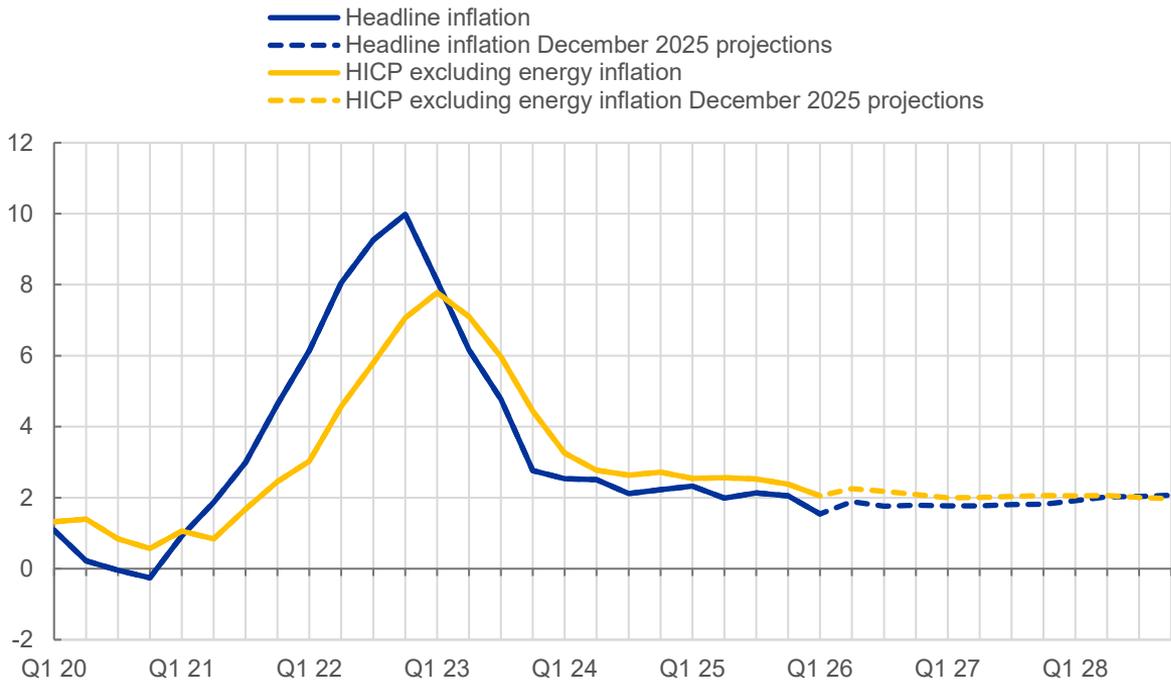
## Contribution of foreign workers to GDP growth (percentage change since the first quarter of 2015 and percentage point contributions)



Sources: National Accounts, EU Labour Force Survey (LFS) and ECB staff calculations.  
Notes: The residual contribution is mostly due to differences in employment growth between LFS and national accounts data. A small part is also due to approximations in calculating the contributions by nationality.  
Latest observation: Q3 2025.

# Temporary, small inflation deviations caused by energy are largely irrelevant for policy

## HICP and HICP excluding energy (annual percentage points)



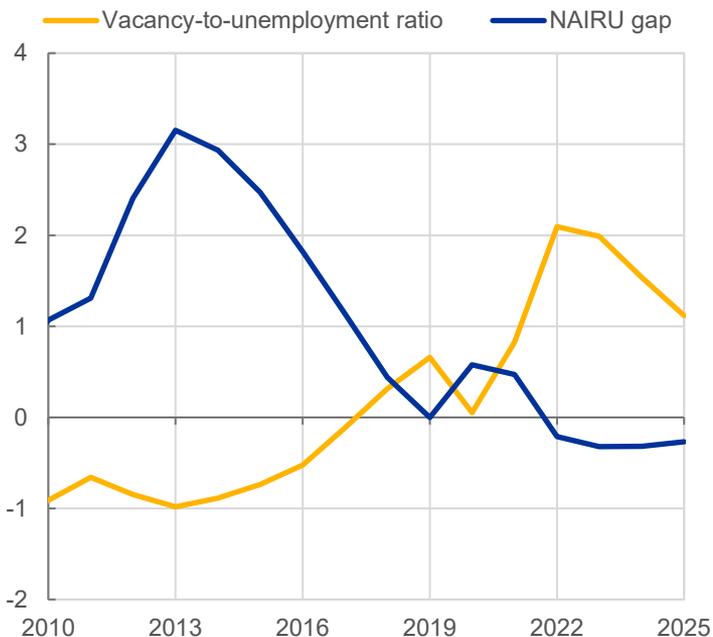
Sources: Eurostat, December 2025 Eurosystem staff macroeconomic projections for the euro area and ECB calculations.

Notes: Data is quarterly. The latest observation based on actual data is Q1 2026, which is based on the January 2026 inflation outcome.

# Labour markets across the euro area remain tight by most conventional metrics

## Vacancy-to-unemployment ratio and NAIRU gap for the euro area

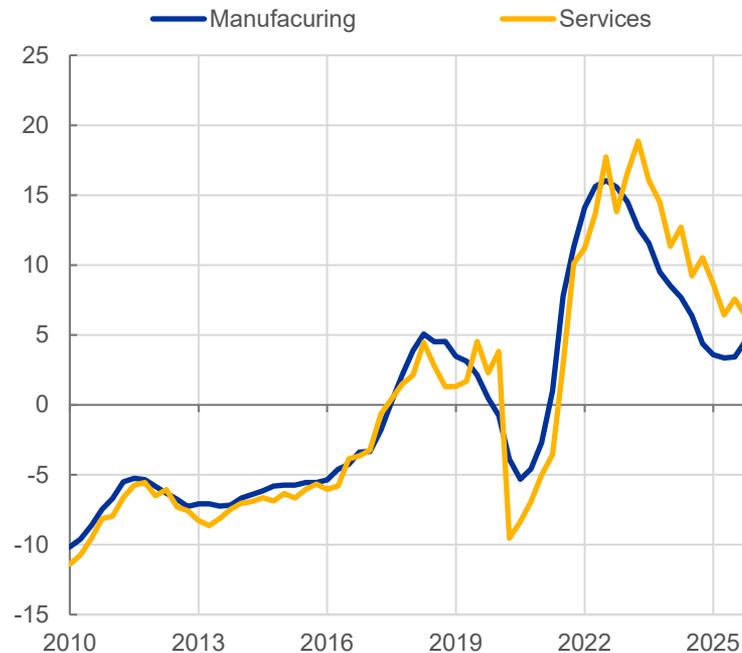
(NAIRU gap in percentage points; standardised vacancy to unemployment ratio)



Sources: Eurostat, European Commission (Autumn 2025) and ECB staff calculations.  
Notes: NAIUR stands for non-accelerating inflation rate of unemployment, and it is sourced from the European Commission. The NAIUR gap is defined as the difference between the actual unemployment rate and the respective NAIUR estimate. A positive gap points to slack in the labour market. Data in the chart represent annual averages. For the vacancy-to-unemployment ratio, the time series represents the deviation from its own sample mean standardised by its standard deviation. Latest observation: 2025.

## Labour as factor limiting business

(deviation from mean)

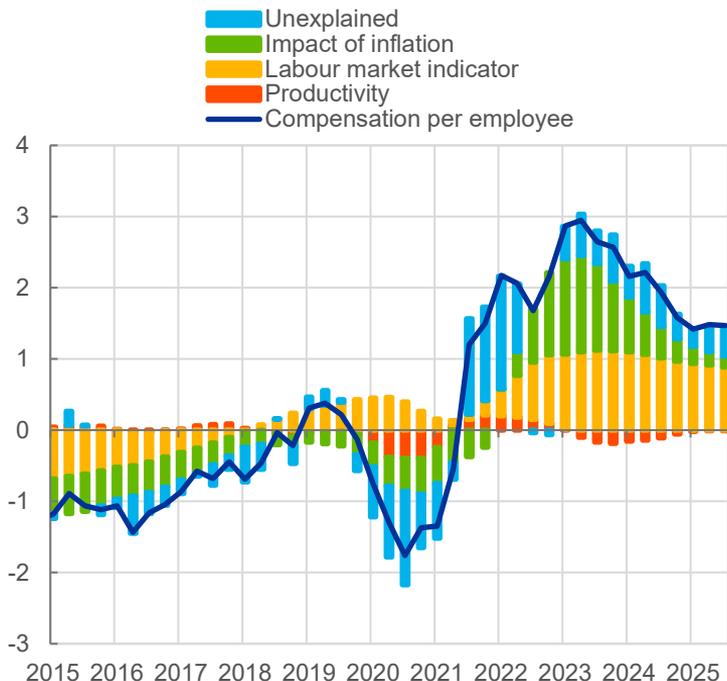


Source: European Commission business and consumer survey.  
Notes: The averages of the indicator (from which the deviations are calculated) over the period 2010 – 2025 are 11.8 (manufacturing) and 16.0 (services). Latest observation: Q4 2025.

# Wage growth still elevated relative to levels consistent with stable inflation

## Wage Phillips curve decomposition of compensation per employee growth

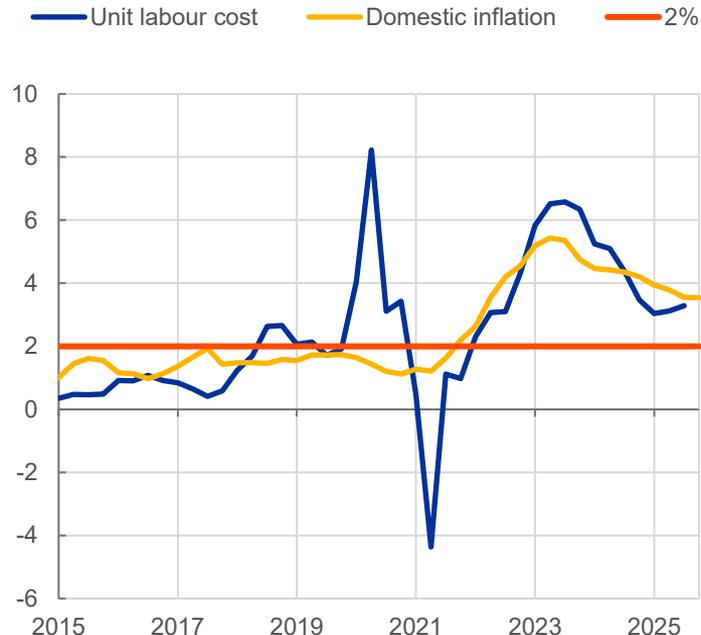
(demeaned; annual percentage changes and pp contributions)



Sources: Eurostat, European Commission and ECB staff calculations.  
 Notes: The chart shows an average over various specifications for demeaned CPE growth. CPE and productivity are interpolated over the first and second quarters of 2020 in levels. The average year-on-year CPE growth rate over the period Q1 1996–Q3 2025 is 2.4%, while over Q1 2015–Q3 2025 it is 2.8%. Latest observations: Q3 2025.

## Unit labour cost growth and domestic inflation

(annual percentage changes)

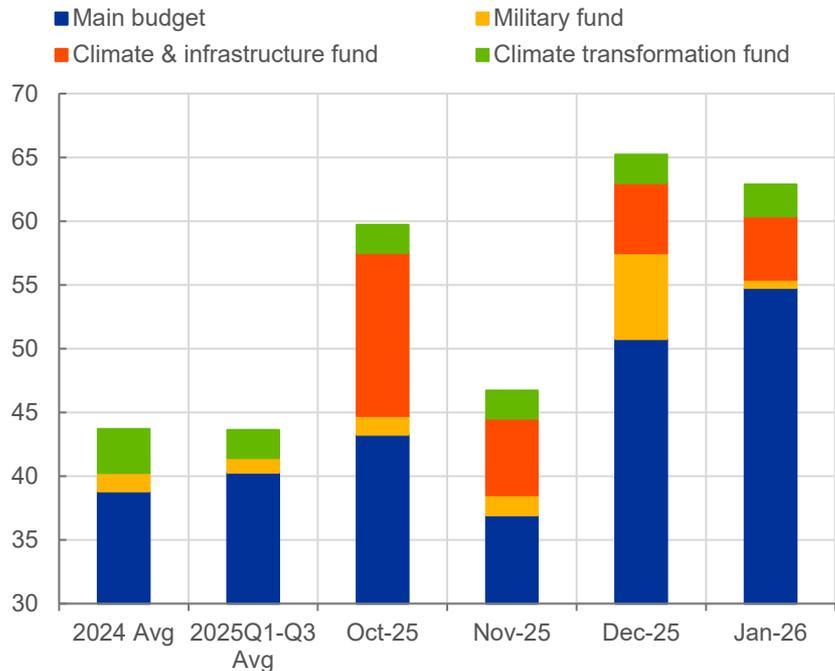


Sources: Eurostat and ECB staff calculations.  
 Latest observations: Q3 2025 for unit labour costs and December 2025 for domestic inflation.

# Expansionary fiscal policy is increasingly underpinning aggregate demand

## Government spending in Germany

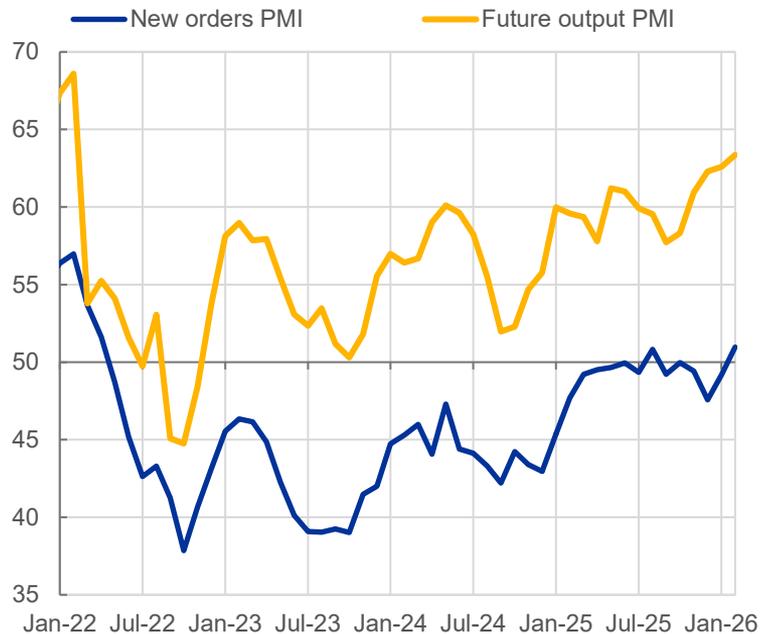
(EUR bn)



Sources: German Federal Ministry of Finance monthly reports and ECB staff calculations.

## Euro area manufacturing PMIs

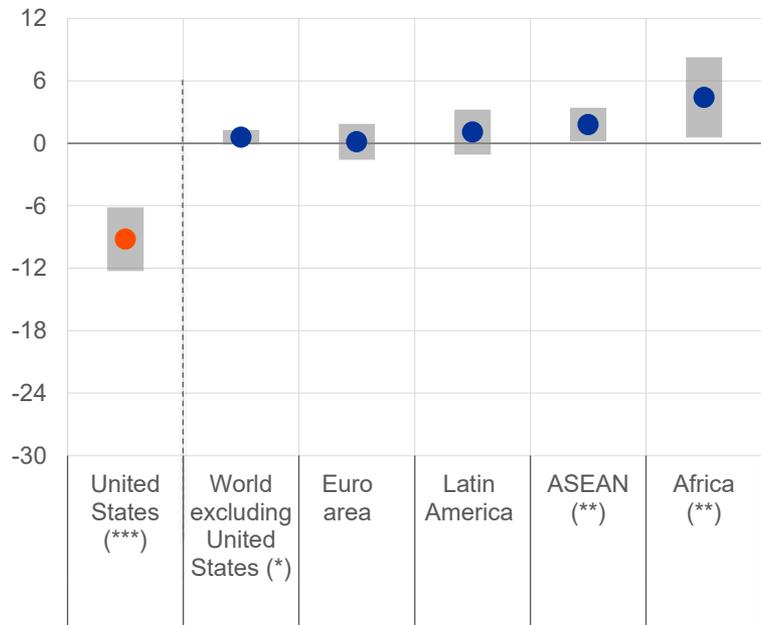
(diffusion indices)



Source: S&P Global, Hamburg Commercial Bank.  
Latest observation: February 2026.

## Impact of the 2025 US tariffs on Chinese exports by destination

(percentage deviation between December 2024 and September 2025)

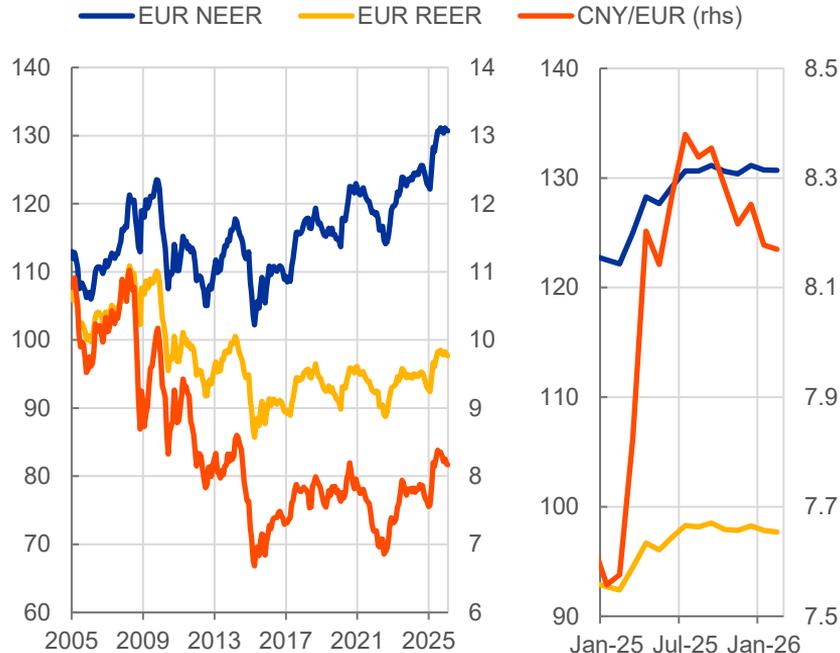


Sources: Trade Data Monitor and ECB staff calculations.

Notes: The charts show the annual growth rate of Chinese exports due to the 2025 US tariffs. The impact is calculated by applying the average tariff rate increase observed between 2024 and September 2025, expressed in percentage point difference, to the estimated elasticity of exports with respect to tariffs. On average, tariffs on Chinese exports rose by 37 percentage points over this one-year period. The grey bars represent 95%-confidence intervals around the estimated coefficients. (\*), (\*\*), and (\*\*\*) denote 10%, 5% and 1% significance level, successively. The sample includes data on global imports of Chinese goods from its trading partners between January and September 2025. In total 2024 Chinese exports capital goods share was 23%, consumer goods share 23% and intermediate goods share 44%. Latest observation: September 2025.

## Euro effective exchange rate and EUR/CNY

(left-hand scale: index: Q1 1999 = 100; right-hand scale: CNY per EUR)



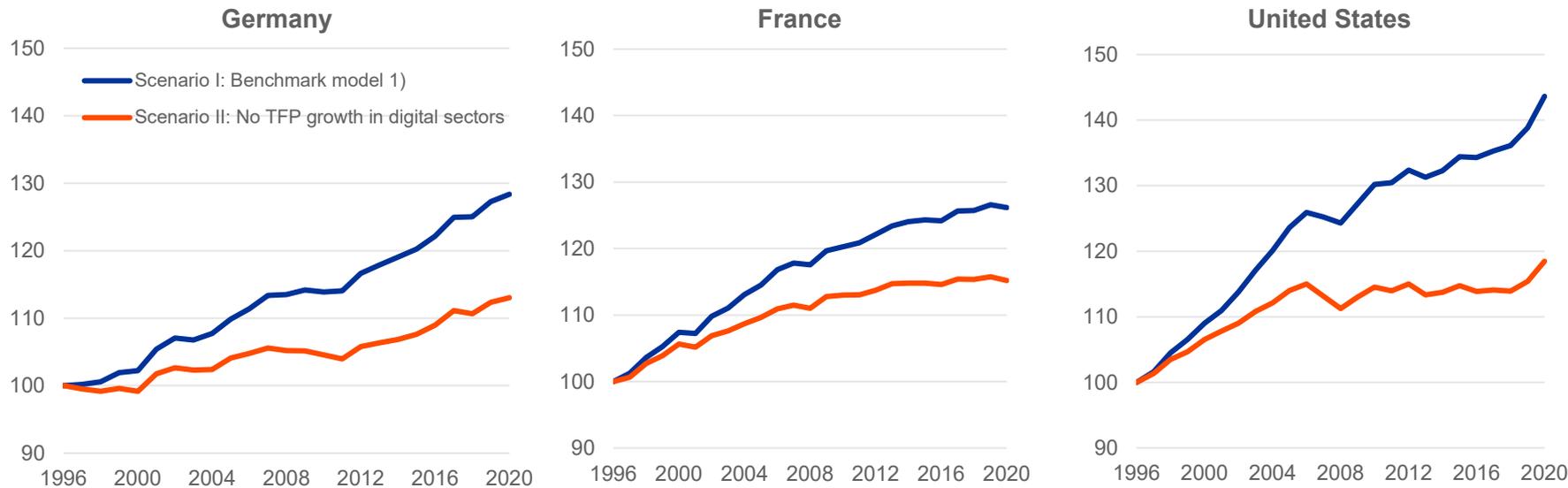
Sources: ECB and ECB staff calculations.

Notes: Nominal effective exchange rate (NEER) and real consumer price index (CPI)-deflated effective exchange rate (REER), denominated in euro, for 40 trading partners.

Latest observation: February 2026.

## Importance of digital sectors for aggregate labour productivity

(1996 = 100, log scale)



Source: Falck, E., Röhe, O. and Strobel, J. (2024), "Digital transformation and its impact on labour productivity", Research Brief, 65<sup>th</sup> edition, May.

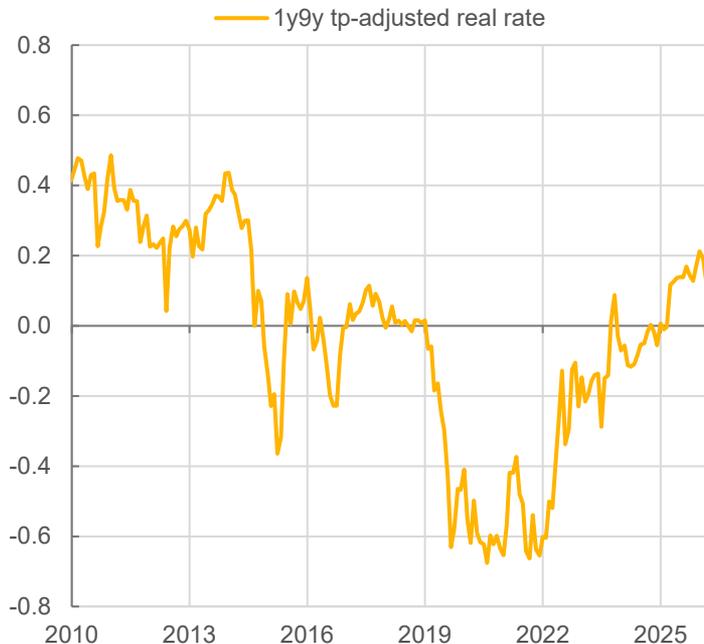
Notes: Bundesbank calculations based on EU KLEMS data and the World Input-Output Database. Digital sectors comprise NACE divisions C26 and C27 as well as NACE section J. Other sectors covered are NACE sections C (excluding C26, C27 and C19), D-I, K, M-N, R-S.

1) Plots the development of labour productivity based on the sectoral TFP paths and a model with eight sectors.

# Higher natural rate of interest and elevated inflation expectations call for caution

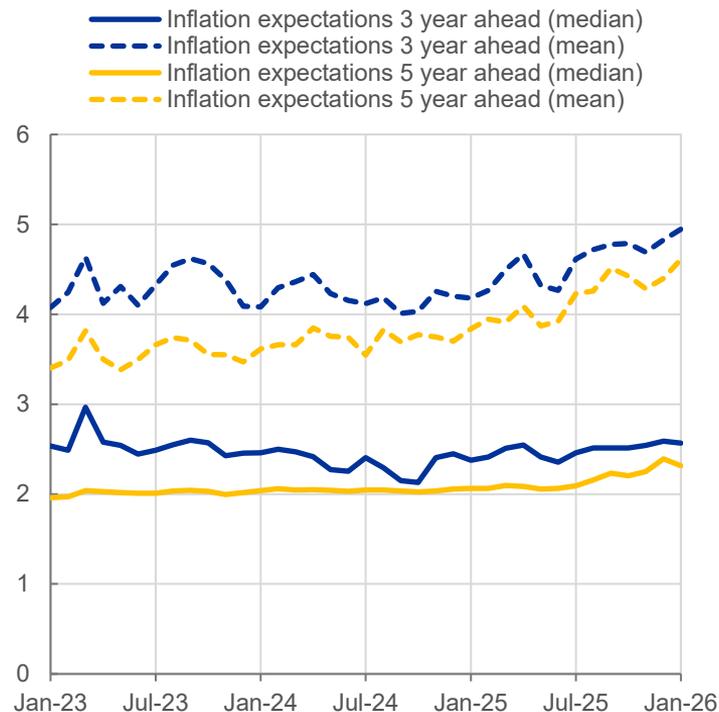
## Euro area 1y9y real forward rate adjusted for term premia

(percentages per annum)



## ECB consumer expectations survey

(annual percentage changes)



Sources: Bloomberg, LSEG and ECB calculations.

Notes: The chart shows the 1y9y euro area forward real rate adjusted for term premia. The series is computed as the difference between term-premia adjusted 1y9y OIS rate (average of two affine term structure models, with and without survey information on rate expectations (both variations of Joslin, Singleton and Zhu (2011)), and a lower bound term structure model following Geiger and Schupp (2018) incorporating survey information on rate expectations) and premia adjusted 1y9y ILS rate (based on Burban et al. (2022)). Latest observations: 2 March 2026 (monthly series).

Sources: Eurostat and ECB Consumer Expectations Survey (CES).

Notes: The dotted lines refer to the winsorised mean.

Latest observations: January 2026.

**Thank you very much for your attention!**